

January 6, 2011

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PURCHASING AND SUPPLY
SPECIFICATIONS FOR
WELDING PROGRAM LAB EQUIPMENT**

PURPOSE:

The purpose of this specification is to establish a purchasing criteria for welding lab equipment for use by the Virginia Community College System (VCCS), Agencies, and other Public Bodies of the Commonwealth of Virginia, for instructional use.

The following specifications are intended to define the minimum level of quality and performance of the requested products, and are meant to be met or exceeded. The use of brand names in this specification is not meant to be restrictive as to brand name or manufacturer, except where a specific brand name is required. It is intended to define the level of quality and performance of the requested equipment. Bidders/Vendors proposing equivalent equipment shall submit complete technical data of the products being offered, with an itemized list matching the requested specification items. The itemized technical data must be organized in the same order as the items in the specification, using the same item numbering and lettering system as it appears in the specification. Bidders/Vendors shall indicate any deviations with appropriate reasons and documentation. The Commonwealth reserves the right to obtain technical data and to request clarification when deemed necessary. **Failure on the part of the bidder/Vendor to provide all requested documentation may be cause to reject the bid/request as non-responsive.**

SCOPE:

This specification describes a comprehensive welding lab system capable of supporting the curriculum requirements of the VCCS course entitled “WEL-100 – Fundamentals of Welding”, and to support the following welding operations: Stick, MIG, TIG, Flux-cored, and Oxy-fueled welding and cutting.

BIDDER REQUIREMENTS:

A single vendor shall provide all items in the quantities indicated, as a complete package, for the comprehensive welding lab system per these specifications, and shall also be responsible to provide inside delivery, setup, testing, and instructor orientation for all items supplied.

The products offered in answer to this request for bid must be a new and unused current production models of the devices required. No prototype or beta test product will be accepted, and offering of such a product will be cause for bid rejection

Products provided must be warranted for a period of three years to provide no-cost protection to the Commonwealth for correction or replacement as needed for defects in manufacturing, assembly, or parts.

SPECIFICATION FOR WELDING PROGRAM LAB EQUIPMENT:

I: Quantity = (6): Downdraft Welding Table with Filtration System; Diversi-Tech Mini-DD or equivalent:

Table shall be a portable downdraft type designed for dust and smoke collection.

- a. Table shall be equipped with a downdraft fan.
- b. Table shall be equipped with side and back wall panels.
- c. Table shall accept interchangeable gratings for work surface.
- d. Table shall have a grounding lug.
- e. Table shall have a light kit, to be mounted on the back wall panel.
- f. If providing an equivalent table, provide these specifications data for proposed table:

Manufacturer, brand name, and model: _____

1. Basic Data:

- a. Cleaning method: _____
- b. Air flow: _____
- c. Face Velocity: _____
- d. Operating Temp. _____

2: Fan Data:

- a. Motor HP/voltage: _____
- b. Capacity, cfm: _____
- c. Static Pressure: _____
- d. Sound level @ 5ft.: _____

3: Main Filter:

- a. Quantity: _____
- b. Filter size: _____
- c. Filtration area: _____
- d. Material: _____
- e. Efficiency @ Micron: _____
- f. Removal access: _____

4: Prefilter:

- a. Quantity: _____
- b. Size: _____
- c. Material: _____
- d. Location: _____
- e. Removal access: _____

5. Cabinet:

- a. Weight: _____
- b. Dimensions: _____
- c. Material / thickness: _____
- d. Finish type / color: _____

Wheels:

- a. Type / size: _____
- b. Quantity: _____

II: Quantity = (1): Dust and Smoke Capture Arm for Welding Table, Diversi-Tech model Mini-DD-CA or equivalent:

- a. Shall be a 3-joint articulated smoke and dust collection arm which must attach to the downdraft welding table, utilizing the table fan to permit fume collection when welding off the downdraft table.

- b. Capture arm to be minimum 4” diameter, with total length 10 ft. minimum.
- c. Fume collection nozzle required. Describe type: _____

III: Quantity = (12): Welding Screen Panels with Frame; Sellstrom Supervisor Series or equivalent:

- a. Frame shall be constructed of minimum 7/8” diameter galvanized steel tubing, with supports
- b. Frame must be adjustable for 5’ x 5’, 5’ x 6’, 6’ x 4’, and 6’ x 6’ panels.
- c. Frame must be provided with 6’ x 6’ transparent orange, minimum 14 mil vinyl welding curtain., suitable for proximity to welding processes.
- d. Welding curtain shall have brass grommets on corners, and must be resistant to tearing, cracking, or shattering.
- e. Welding curtain must also be resistant to fire, water, and mildew.

IV: Quantity = (6): Gas Cutting and Welding Outfit; Harris Calorific Expert Classic 510 or equivalent:

- a. All components and accessories provided in Harris Expert Classic 510 outfit must be included with an equivalent system. Provide manufacturer literature and specifications.
- b. The parts shown on the following list are major items included in the Harris welding outfit. The list is not meant to indicate it is comprehensive of all parts to be supplied. For an equivalent gas welding outfit, list the items to be provided that are equivalent to the Harris items shown below:
 - 1. #85 Torch handle: _____
 - 2. #D-85 Mixer _____
 - 3. #72-3 Cutting attachment: _____
 - 4. 6290-1AC Cutting tip: _____
 - 5. #23A90-5 Welding Tip: _____
 - 6. #201-100C-540 Single stage oxygen regulator: _____
 - 7. #201-15C-510 Single stage fuel gas regulator: _____
 - 8. 20 ft. x 3/16” Twin hose set: _____
 - 9. List all other items included: _____
- c. Include welding goggles and spark striker.
- d. Provide manufacturer, brand name, and model if providing an equivalent gas welding outfit.

V: Quantity = (6): Tank Cart for Gas Cylinders:

- a. Cart shall carry and store medium size oxygen and acetylene cylinders, with a cylinder diameter capacity of 19”.
- b. Cylinders must be secured with a steel retaining clamp.
- c. Cart must have attached storage for welding and cutting attachments.
- d. Cart shall be provided with minimum 10” diameter semi-pneumatic wheels with steel hubs.
- e. Minimum basic dimensions are: Baseplate = 10” x 19”, Height = 45”, Width = 27”

VI: Quantity = (6): TIG and Stick Welding System; Lincoln Electric Precision TIG 225 Ready-Pack or equivalent:

Vendor shall provide a CSA C/US certified turn-key system complete with attachments and accessories required for TIG (GTAW) and stick (SMAW) welding processes:

- a. All components and accessories provided in Lincoln Electric Precision TIG 225 Ready-Pack must be included with an equivalent system. Provide manufacturer literature and specifications.

- b. TIG welding system must include Lincoln Electric stick electrode holder and cable, part no. K2374-1 or equivalent.
- c. TIG welding system must include Lincoln Understorage Cart with drawer, part no. K2348-1 or equivalent.
- d. If proposing an equivalent welding system, provide a complete description and listing of all controls included on the welder unit.
- e. Provide a complete description and listing of all connections included on the welder unit.
- f. Automatic shutdown when rated duty cycle is exceeded
- g. Welding unit automatic cooling fan system
- h. Storage compartment and cable hanger for welding torches
- i. Removable lifting eye for welding unit
- j. If providing an equivalent TIG welding system , provide these specifications Data for the equivalent TIG system:

Manufacturer, brand name, and model: _____

- 1. Input Power:
 - a. Input voltage: _____
 - b. Input current: _____ Effective _____ Maximum
 - c. Power factor: _____
 - d. Idle current: _____
- 2. Output Range:
 - a. Output current range: _____ AC _____ DC
 - b. Max open circuit voltage range (stick & TIG) _____ AC _____ DC
 - c. Type of output (AC/DC): _____
- 3. Rated Output – GTAW (listed as duty cycle-weld current (AC/DC)-weld voltage NEMA):
 - e. 10% Duty Cycle: weld current _____ weld voltage _____
 - f. 20% Duty Cycle: weld current _____ weld voltage _____
 - g. 100% Duty Cycle: AC/DC balanced current: _____
weld voltage _____
 - h. 100% Duty Cycle: AC/DC auto-balanced current: _____
- 4. Rated Output – SMAW (listed as duty cycle-weld current (AC/DC)-weld voltage NEMA):
 - i. 10% Duty Cycle: weld current _____ weld voltage _____
 - j. 20% Duty Cycle: weld current _____ weld voltage _____
 - k. 100% Duty Cycle: weld current: _____ weld voltage _____

VII: Quantity = (6): MIG and Flux-cored Welding System; Lincoln Electric Power MIG 180C or equivalent:

Vendor shall provide a turn-key system complete with attachments and accessories required for MIG (GMAW) and Flux core (FCAW) welding processes:

- a. All components and accessories provided in Lincoln Electric Power MIG 180C kit must be included with an equivalent system. Provide manufacturer literature and specifications.
- b. MIG welding system must include Lincoln angled-up cart with lower shelf, to transport welder and 80 cubic foot gas cylinder, Lincoln part no. K2275-1 or equivalent.
- c. MIG welding system must include Lincoln 100SG spool gun for aluminum welding, part number K2532-1, or equivalent.
- d. Must provide no tool access for change of wire spools, and polarity changes.
- e. Provide storage for contact tips, drive rolls, and nozzles.

- f. If proposing an equivalent welding system, provide a complete description and listing of all controls included on the welder unit.
- g. If providing an equivalent MIG welding system , provide these specifications Data for the equivalent MIG system:

Manufacturer, brand name, and model: _____

- 1. Input Power:
 - a. Input voltage: _____
 - b. Input current: _____ @ rated
- 2. Output Range:
 - a. Welding current range: _____
 - b. Open circuit voltage: _____ AC _____ DC
 - c. Wire speed range: _____
- 5. Rated Output:
 - a. 30% Duty Cycle (230V): current _____ voltage _____
 - b. 30% Duty Cycle (208V): current _____ voltage _____
 - c. 100% Duty Cycle: AC/DC auto-balanced current: _____

VIII: Quantity = (6): 4-1/2” Electric Angle Grinder Kit; DeWalt #D28402K or equivalent:

If an equivalent grinder kit is to be proposed, provide complete specifications and manufacturer literature.

IX: Quantity = (1): 14” Metal Cutting Chop Saw; DeWalt #D28715 or equivalent:

If an equivalent 14” chop saw is to be proposed, provide complete specifications and manufacturer literature.

X: Quantity = (6): Set of (3) Welding Clamps; Northern Tools Item #15014:

Clamps shall be drop-forged and hardened, with quick-release levers. Clamp set to include:

- 8” sheet metal clamp
- 9” welding clamp
- 11” C-clamp

XI: Quantity = (6): Welding Table Accessory Clamp Kit; Strong Hand Tools:

The vendor shall supply the following Strong Hand Tools accessories and clamps:

- (2) #UDV65 5-1/2” Mag-Spring spring loaded clamps
- (1) #MS346AK Box of (6) Mini-magnets
- (1) #MS346C Multi-angle magnet
- (2) #XDA2 Clip-on Magnetic V-pads